E Nursery: An E-Commerce Platform for Online Plant Selling and Buying

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1. Abstract

E Nursery is an e-commerce-based web application designed to provide an online platform for buying and selling different types of plants. The main objective of this project is to make the plant purchasing and selling process simple, fast, and accessible through a digital system. The platform contains two types of users: **Customers** and **Sellers**. Customers can browse, search, and purchase various categories of plants such as flower plants, fruit plants, medicinal plants, indoor plants, and decorative plants.

Sellers can register themselves on the platform and upload their plant products with details such as plant name, category, price, images, and availability for online selling.

The system provides a user-friendly interface that allows customers to easily explore products and place orders securely. Sellers can manage their products and update plant information whenever required. The project

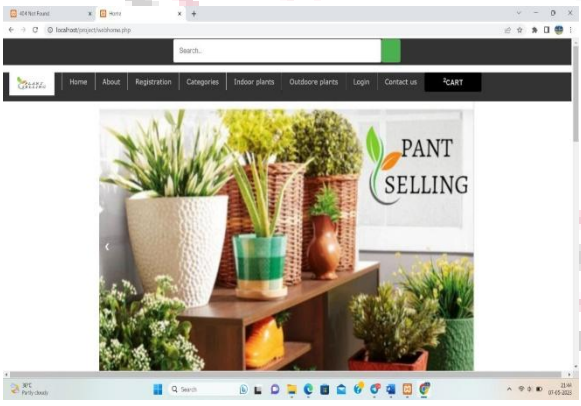
also includes features like user registration, login, product management, shopping cart, and order management to improve the overall user experience.

The E Nursery project promotes digital business solutions for nursery owners and encourages people to adopt gardening and plantation activities. This system can help increase the reach of plant sellers while providing customers with the convenience of purchasing plants from their homes. The project can be developed using modern web technologies and database management systems to ensure efficiency, reliability, and scalability.

Keywords

E Nursery, Online Plant Shopping, Plant Selling System, Nursery Management, Seller Management, Online Marketplace, Order Management, Plant Delivery System, User Authentication

2. Introduction



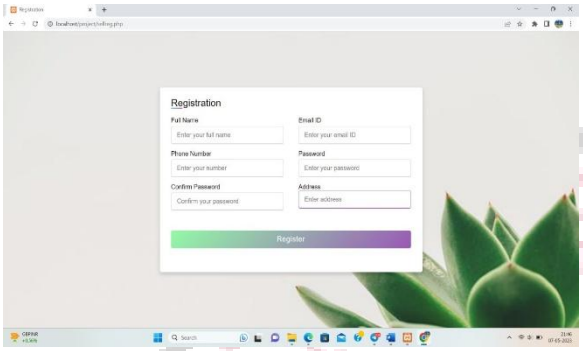
The rapid growth of internet technology and online shopping platforms has changed the way people purchase products and services. Nowadays, customers prefer online platforms because they provide convenience, time saving, and a wide variety of products. In the field of gardening and plant nurseries, many sellers still depend on offline business methods, which limit their reach to local customers only. To overcome this problem, the E Nursery project is developed as an e-commerce-based platform for buying and selling plants online.

E Nursery is a web-based application that connects plant sellers and customers through a single digital platform. The system allows customers to explore and purchase different categories of plants such as flower plants, fruit plants, medicinal plants, indoor plants, and decorative plants from the comfort of their homes. At the same time, sellers can register themselves on the platform and upload their plant products for online selling.

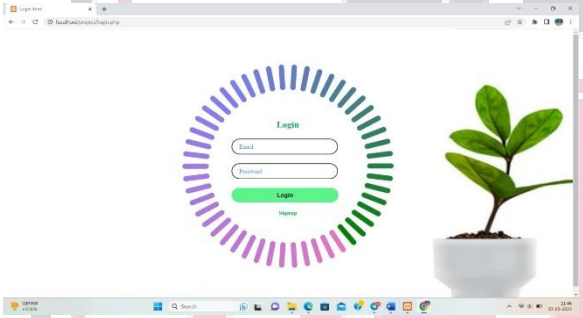
The main purpose of this project is to simplify the nursery business process and make plant purchasing more accessible to users. The platform provides features such as user registration, login, product management, shopping cart, order placement, and seller management. Customers can easily search and compare plants, while sellers can manage their products and monitor sales efficiently.

The E Nursery project not only supports digital business transformation but also promotes environmental awareness by encouraging people to plant more trees and maintain gardens. This system is designed using modern web technologies and database management systems to provide a secure, reliable, and user-friendly experience for both customers and sellers.

REGISTRATION PAGE



LOGIN PAGE



3. Literature Review

The growth of e-commerce technology has changed traditional business methods into online platforms. Many businesses now use web applications to provide better accessibility, convenience, and faster services to customers. Similarly, online nursery systems help customers purchase plants easily from their homes while allowing sellers to expand their business digitally.

Existing online plant-selling platforms provide features such as user registration, product management, shopping cart, and online ordering. Research shows that multi-vendor systems are more effective because they allow multiple sellers to sell products on a single platform, increasing product variety and customer choice.

The E Nursery project is developed based on the concepts of e-commerce and nursery management systems. It aims to provide a simple, secure, and user-friendly platform for buying and selling different types of plants online while also promoting gardening and environmental awareness.

purchase plants and sellers can efficiently manage and sell their products online. Additionally, the project promotes environmental awareness and encourages gardening activities through digital technology.

4. Proposed System

The proposed system, E Nursery, is an e-commerce-based web application designed to provide an online platform for buying and selling plants. The system allows two types of users: Customers and Sellers. Customers can register, log in, browse different categories of plants, add products to the cart, and place orders online. Sellers can create accounts, upload plant details, manage products, and sell plants through the platform.

The system provides a user-friendly interface for easy navigation and efficient product management. It includes features such as user authentication, product categorization, shopping cart, order management, and seller management. The platform helps nursery businesses reach more customers digitally

and provides users with the convenience of purchasing plants from anywhere.

The proposed system also promotes environmental awareness by encouraging people to buy and grow plants. The application is designed using modern web technologies and database management systems to ensure security, reliability, and better performance.

5. FRONTEND TECHNOLOGY

HTML, CSS, JS, JQUERY, BOOTSTRIP, PHP are utilities to implement the frontend.

HTML: HTML is a syntax used to format a text document on the web. Web browsers such as Internet Explorer and Netscape Navigator interpret these documents. HTML can be created as standard ASCII text with "tags" included to pass on extra information about character formatting and page layout to a web browser. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like), within the web page content. HTML tags most come in pairs like and, although some tags represent empty elements and so are unpaired, for example, Error! Filename not specified. The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content. The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items.

CSS: CSS is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for tables web design). CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed.

JS: A scripted can contain any number of JAVA language statements, variable or

method declarations, or expressions that are valid in the page scripting language. Following is the syntax of Script.

PHP:PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server. PHP code is embedded into the HTML source document. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content. It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on many web servers and operating systems and can be used with many relational database management systems (RDBMS). It is available free of charge, and the PHP Group provides the complete source code for users to build, customize, and extend their own use.

6. BACKEND TECHNOLOGY

MYSQL: MYSQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. MYSQL is a popular choice of databases for use in web applications and is an open-source product. The process of setting up a MYSQL database varies from host to host; however, we will end up with a database name, a username, and a password. Before using our data base, we must create a table. A table is a section of the database for storing related information. In a table, we will set up the different fields which will be used in that table.

Creating a table in PHP My Admin is simple, we just type the name, select the number of fields and click the 'go' button. We will then be taken to a setup screen where you must create the fields for the database. Another way of creating databases and tables in PHP My Admin is by executing simple SQL statements. We have used this method to create our database and tables.

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. MySQL is a popular choice of database for use in web applications and is a central component of the widely used LAMP (Linux, Apache, MySQL, Perl/PHP/Python) open-source web application software stack (and other 'AMP' stacks). Free software-open-source projects that require a full featured database management system often use MySQL. For commercial use, several paid editions are available and offer additional functionality. Applications which use MySQL databases include: TYPO3, MO Dx, Joomla, WordPress, PHP BB, Drupal, and other software.

Technological Advancements in E Nursery

The E Nursery system uses modern web technologies to provide a fast, secure, and user-friendly online platform for plant buying

and selling. Advanced database management systems help store and manage customer, seller, and product information efficiently. The platform also supports features like online product browsing, shopping cart management, secure login authentication, and order processing.

Responsive web design allows users to access the system easily from computers and mobile devices. Digital payment integration and online order tracking improve customer convenience and overall user experience. These technological advancements make the E Nursery system reliable, scalable, and efficient for both customers and sellers.

7. TESTING

Testing is a set activity that can be planned and conducted systematically. Testing begins at the module level and work towards the integration of entire computers-based system. For testing our software, we test each and every path that user can go at any point in the lifetime of the system. Nothing is complete without testing, as it is vital success of the system.

- Testing starts once the coding is complete and the modules are released for testing. In this phase, the developed software is tested thoroughly and any defects found are assigned to developers to get them fixed.
- Retesting, regression testing is done until the point at which the software is as per the customer's expectation. Testers refer SRS document to make sure that the software is as per the customer's standard. There are several rules that can serve as testing objectives, they are

1. Testing is a process of executing a program with the intent of finding an error.

2. A good test case is one that has high probability of finding an undiscovered error.

3. A successful test is one that uncovers an undiscovered error.

MANUAL TESTING

- WHITE BOX TESTING
- BLACK BOX TESTING

WHITE BOX TESTING: - White box testing is the detailed investigation of internal logic and structure of the code. White box testing is also called glass testing or open box testing. In order to perform white box testing on an application a tester needs to know internal working.

BLACK BOX TESTING: - The technique of testing without having any knowledge of the interior working of the application is called black box testing. The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black box text, a tester will interact with the system user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon.

FUNCTIONAL TESTING: -

UNIT TESTING: - This type of testing is performed by developer before the setup is

handed over the testing team to formally execute the testing case. Unit Testing is performed by the respective developers on the individual units of source code assigned areas. The developers use test data that is different forms the test data of quality 'assurance team he goals of-unit testing is to isolate each part of the program and so that individual parts are correct in terms of requirements and functionality.

INTEGRATION TESTING: - Integration testing is defined as the testing of combine parts of application to determine if function correctly. Integration testing can be done in two ways. Bottom-up integration testing and top-down integration.

Bottom-up integration: - In this testing begins with unit testing, followed by tests progressively higher-level combination of unit called modules or builds.

Top-down integration: - In this testing higher level modules are tested first and progressively, lower-level module is thereafter.

SYSTEM TESTING: - System testing tests the system as a whole. Once all the components are integrated. The application as a whole is tested rigorously to see that it meets the specification quality standards. This type of testing is performed by specialization testing team. System testing is important because of following reason.

- System testing is the first step in the Software Development Life Cycle, where by application is tested a whole.
- The application is tested thoroughly to verify that is meets the functional and technical specification.
- The application is tested in an environment that is very close to the production environment where the application will be deployed.
- System testing enables us to test, verify and validate both the business requirement as the application architecture.

ACCEPTANCE TESTING: - Acceptance testing is a level of software testing where a system is tested for acceptability. Acceptance testing, a testing technique performed to determine whether or not the software system has met the requirement specifications. The main purpose of this test is to evaluate the system's compliance with the business requirements and verify if it is has met the required criteria for delivery to end users.

There are various forms of acceptance testing:

- User acceptance
- Testing Business
- Acceptance Testing
- Alpha Testing
- Beta Testing

ALPHA TESTING: - Alpha testing is a type of acceptance testing, performed to identify all possible issues/bugs before releasing the product to everyday users or the public. Alpha Testing performed at developer's site. Reliability and Security Testing are not performed in-depth Alpha Testing. Alpha testing involves both the white box and black box techniques.

BETA TESTING: - Beta Testing of a product is performed by "real users" of the software application in a "real environment" and canon be considered as a form of external User Acceptance Testing. Clients or End Users who are not employees of the organization perform beta testing. Beta Testing typically uses Black Box Testing.

8. Conclusion

The E Nursery project is an e-commerce-based platform developed to simplify the process of buying and selling plants online. The system provides an easy and user-friendly interface for both customers and sellers. Customers can explore and purchase different types of plants, while sellers can manage and sell their products digitally.

This project helps nursery businesses expand their reach and provides customers with the convenience of online shopping. It also promotes gardening and environmental awareness. By using modern web technologies and database systems, the E Nursery platform becomes secure, efficient, and reliable for online plant management and sales.